

## Hybrid Nanocomposites for Efficient Aerospace Structures, Phase I

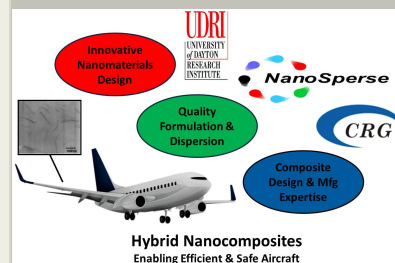
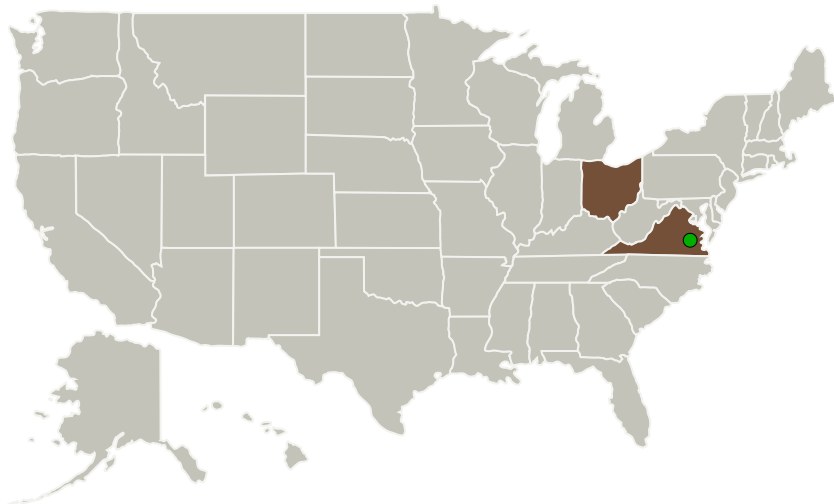


Completed Technology Project (2015 - 2015)

## Project Introduction

NASA seeks to address the primary goals of the Advanced Air Vehicles program, improving safety and efficiency, through exploration of the value for hybrid composites to guide the direction for development and insertion of the materials into industry. Cornerstone Research Group Inc. (CRG), University of Dayton Research Institute (UDRI), and NanoSpense LLC have formed a team of experts in the aerospace composites industry to perform a systems-level value assessment for hybrid composites into target aircraft application areas during this Phase I project, and demonstrate actual material properties through a preliminary hybrid composite formulation, fabrication, and characterization activity. The result of the Phase I project will be direction for hybrid composites development. In Phase II and beyond, this team provides the necessary skills and capabilities –industry insight, materials formulation, nanomaterials dispersion, composites design, aerospace structures design, and composites manufacturing – to drive the technology into commercial application.

## Primary U.S. Work Locations and Key Partners



Hybrid Nanocomposites for Efficient Aerospace Structures, Phase I

## Table of Contents

Project Introduction	1
Primary U.S. Work Locations and Key Partners	1
Project Transitions	2
Images	2
Organizational Responsibility	2
Project Management	2
Technology Maturity (TRL)	2
Technology Areas	3
Target Destinations	3

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Organizations Performing Work	Role	Type	Location
Cornerstone Research Group, Inc.	Lead Organization	Industry	Miamisburg, Ohio
● Langley Research Center(LaRC)	Supporting Organization	NASA Center	Hampton, Virginia

## Primary U.S. Work Locations

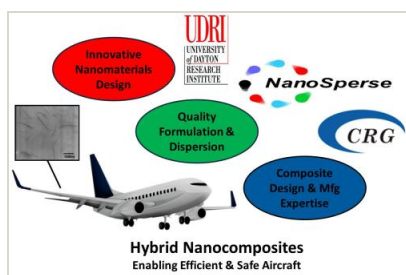
Ohio	Virginia
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## Project Transitions

**June 2015:** Project Start**December 2015:** Closed out**Closeout Summary:** Hybrid Nanocomposites for Efficient Aerospace Structures, Phase I Project Image**Closeout Documentation:**

- Final Summary Chart Image(<https://techport.nasa.gov/file/138965>)

## Images

**Briefing Chart Image**

Hybrid Nanocomposites for Efficient Aerospace Structures, Phase I  
(<https://techport.nasa.gov/image/135002>)

## Organizational Responsibility

**Responsible Mission Directorate:**

Space Technology Mission Directorate (STMD)

**Lead Organization:**

Cornerstone Research Group, Inc.

**Responsible Program:**

Small Business Innovation Research/Small Business Tech Transfer

## Project Management

**Program Director:**

Jason L Kessler

**Program Manager:**

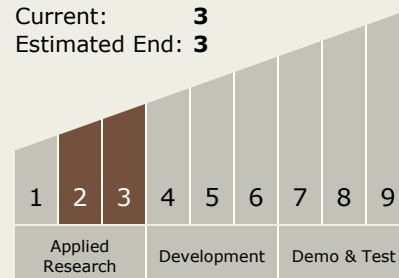
Carlos Torrez

**Principal Investigator:**

Bryan M Pelley

## Technology Maturity (TRL)

Start: 2  
Current: 3  
Estimated End: 3



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## Technology Areas

### Primary:

- TX12 Materials, Structures, Mechanical Systems, and Manufacturing
  - └ TX12.1 Materials
    - └ TX12.1.1 Lightweight Structural Materials

## Target Destinations

The Sun, Earth, The Moon, Mars, Others Inside the Solar System, Outside the Solar System